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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,221	04/24/2006	Jean-Pierre Brochot	2838950PCT	7863
22850	7590	10/15/2008	EXAMINER	
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			XU, LING X	
			ART UNIT	PAPER NUMBER
			1794	
			NOTIFICATION DATE	DELIVERY MODE
			10/15/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/562,221	Applicant(s) BROCHOT ET AL.	
	Examiner Ling Xu	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1/20/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/21/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 5-6, 9-13, and 15-20 are objected to under 37 CFR 1.75(c) as being in improper forms. A multiple dependent claim should refer to other claims in the alternative only and/or a multiple dependent claim cannot depend from any other multiple dependent claim(s). See MPEP § 608.01(n). Accordingly, the claims 5-6, 9-13 and 15-20 have not been further treated on the merits.

2. Claim 11 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 11 depends on claim 1. Claim 11 recites that the dielectric coatings comprising a layer based on metal oxides. However, claim 1 recites that the dielectric layer comprising silicon nitride not oxides.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, it is unclear the "silicon nitrides" in layers (a) and (e) should be -- silicon nitride --.

In claim 2, it is unclear if the thickness is 5 nm or between 15 and 70 nm. It is also unclear if the thickness is in the same range for both dielectric layers (a) and (b).

In claim 11, it is unclear if at least one or each one of the dielectric coating comprising a metal oxide. In addition, there is insufficient antecedent basis for the limitation "dielectric coatings" in the claim.

In claim 18, it is unclear if the average light transmission change is at most 3% or around 2%. It is also unclear if the average change in colorimetric response in reflection is at most 3 or 2.5.

In claims 19-21, claims recite the limitation "glazing assemblies". There is insufficient antecedent basis for this limitation in the claims.

In claim 21, it is unclear "the preceding claim" is referred to which specific preceding claim.

Claim Rejections - 35 USC § 101 & 35 USC § 112

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

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Claim 19 is rejected under 35 U.S.C. 101 because, in claim 19, the claimed recitation of an application/use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

5. Claim 19 provides for the application of glazing assemblies but, since the claim does not set forth any steps involved in the application method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

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under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

In the following examination, all multiple dependent claims will be treated as claims dependent on claim 1. Claim 21 will be treated as depending on claim 20.

Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boire et al. (US 6,045,896) in view of Stachowiak (US 6,589,658).

Regarding claims 1, 3-4, 6, 8, and 13, Boire discloses a glazing assembly comprising the following structure (see Table 3):

/Si₃N₄ layer (5a)/ZnO layer (5b)/Ag Layer (6)/Ti layer (7)/Si₃N₄ layer (8b)

Regarding claim 2, Boire discloses that the thicknesses of the Si₃N₄ layer (5a) and (8b) are 55nm and 25nm, respectively (See Table 3).

Regarding claims 5 and 9-10, the thickness of the layer (5b) is 20 nm, which is greater than the thickness of the layer (7) of 1nm (equivalent to the claimed layer (d)).

Regarding claim 7, the thickness of Ag layer (6) is 9 nm.

Regarding claim 11, Boire discloses that the dielectric layer may comprise oxide (col. 5, lines 20-30).

Regarding claim 12, Boire discloses at least one barrier layer comprising an oxide of at least one metal such as Zn, Al, Ti, Sn, Zr, Nb, W, and Ta (col. 7, lines 20-30). Because the glazing assembly has n+1 coating with $n \geq 1$, the barrier layer in the top coating can serve as a protective layer for the lower coating stack.

Regarding claim 14, as stated above, Boire discloses a glazing assembly comprising the following structure (see Table 3):

/Si₃N₄ layer (5a)/ZnO layer (5b)/Ag Layer (6)/Ti layer (7)/Si₃N₄ layer (8b)

Boire also discloses that the glazing assembly has n+1 coating stack wherein $n \geq 1$ and each Ag functional layer is placed between two coating stacks (col. 3, lines 1-5). Accordingly, Boire discloses that the glazing assembly comprising more than one Ag functional layers is placed between the coating stacks as recited in claim 14.

Regarding claims 15 and 19-21, Boire discloses that the glazing assembly may be capable of undergoing a heat treatment to be curved and/or toughened (col. 8, lines 65-67) and may also be multiple-glazing unit such as a double-glazing unit with at least the substrate carrying the stack being curved and/or toughened (col. 9, lines 1-34).

Boire discloses the same layer structure as claimed except a layer made of a metal or metal alloy layer as claimed.

Stachowiak teaches a glazing assembly comprising a contact layer which contacts the Ag layer. The contact layer may comprise metal or metal oxide such as ZnO, Ni, Cr, or NiCr. Stachowiak also teaches that NiCr is a preferred material for the contact layer because it provides the immediate chemical protection for the Ag layer, and also serves as an adhesion and/or nucleation layer (col. 4, lines 10-16).

Therefore, it would have been obvious to one of ordinary skill in the art to use NiCr as the material to replace ZnO for layer (5b) of Boire's glazing assembly structure in order to provide the immediate chemical protection for the Ag layer, and also serves as an adhesion and/or nucleation layer, as suggested by Stachowiak. The substitution

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of one known element for another to yield predictable results would be obvious to one skilled in the art.

Regarding the properties recited in claims 15-18, since the combination of Boire and Stachowiak disclose the glazing assembly comprising the same layer structure and materials as claimed, the same glazing assembly would also have the same properties as recited in claims 15-18.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling Xu whose telephone number is 571-272-7414. The examiner can normally be reached on 8:00 am- 4:30 pm, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Ling Xu
Primary Examiner
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Lx
September 25, 2008